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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,273	06/27/2002	Ji-Cheng Zhao	125503	2691

6147 7590 10/15/2003

GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH CENTER
PATENT DOCKET RM. 4A59
PO BOX 8, BLDG. K-1 ROSS
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EXAMINER	
LAVILLA, MICHAEL E	

ART UNIT	PAPER NUMBER
1775	5

DATE MAILED: 10/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

A85

Office Action Summary	Application No. 10/064,273	Applicant(s) ZHAO ET AL.	
	Examiner Michael La Villa	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-62* is/are pending in the application.

4a) Of the above claim(s) *33-62* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-26 and 28-32* is/are rejected.

7)☒ Claim(s) *9 and 27* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 June 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group I, Claims 1-32, in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

4. A person shall be entitled to a patent unless –

5. (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-8, 10-26, and 28-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Rigney et al. USP 6,153,313 for the reasons of record in the Office Action mailed on 2 May 2003.

8. Claims 1, 2, 5, 6, 10-17, 19, 20, 23, 24, and 28-31 are rejected under 35 U.S.C. 102(e) as being anticipated by Darolia et al. USP 6,255,001 for the reasons of record in the Office Action mailed on 2 May 2003.

9. Claims 1, 10, 11, 19, 28, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Peterman et al. USP 5,660,886 for the reasons of record in the Office Action mailed on 2 May 2003.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claims 10-12 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rigney et al. USP 6,153,313 for the reasons of record in the Office Action mailed on 2 May 2003.

Response to Amendment

I. In view of applicant's amendments and arguments, applicant traverses the section 112, second paragraph rejection of the Office Action mailed on 2 May 2003. Rejection is withdrawn.

II. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Darolia of the Office Action mailed on 2 May 2003. Applicant points out that applicant's application and Darolia were subject to obligation of assignment to a common assignee at the time of invention, which should preclude Darolia being prior art under 35 USC 103(c). However, rejection is under section 102(e), not section 103, and so Darolia persists as valid prior art. Rejection is appropriate.

III. In view of applicant's amendments and arguments, applicant traverses the section 102 and 103 rejections over Rigney of the Office Action mailed on 2 May 2003. Applicant argues that the rejection necessarily implies that the claimed gradient cannot be achieved in conjunction with the claimed at least 30

atomic percent of aluminum. The coatings must start with at least 30 atomic percent in order to be beta phase. Upon initial heating, diffusion should initiate resulting in a gradient in aluminum concentration. At least those portions of the coating farthest from the interface would retain aluminum amounts in excess of 30 atomic percent and exhibit a gradient in aluminum concentration, particularly when the starting amounts of aluminum are in excess of 30 atomic percent. Therefore, during the initial heating time period, it would be expected that the claimed limitations would be satisfied. Rejection is appropriate.

IV. In view of applicant's amendments and arguments, applicant traverses the section 102 rejection over Peterman of the Office Action mailed on 2 May 2003. Applicant argues that the coatings of Peterman contain bands of different Ni-Al phases. This observation appears to be correct, and so the rejection is not predicated on the entire coating being comprised of "substantially single phase." Applicant argues that none of the single intermetallic phase bands contain an aluminum concentration gradient. Applicant argues that the depicted gradient in aluminum concentration may be due to experimental error. It is unclear why the depicted aluminum

concentration gradient must be due to experimental error as opposed to the presence of non-single phase material, which is allowed for in applicant's definition of "substantially single phase." That there is zero solubility of aluminum in NiAl3 does not mean that there could not be a separate aluminum containing phase whose concentration is varying. Applicant has not demonstrated that the depicted experimental variation is not a true variation. Moreover, considering the claimed coating to be identified with only the outermost NiAl3 intermetallic phase band and a portion of the overlying aluminum coating, there is a "substantially single phase" coating in which the claimed gradient is achieved. Rejection is maintained.

Allowable Subject Matter

13. Claims 9 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

15. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed

within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael La Villa whose telephone number is (703) 308-4428. The examiner can normally be reached on Monday through Friday.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on (703) 308-3822. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

18. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Michael La Villa
October 10, 2003